DZIS'KO, V. A.

"Catalytic and acid properties of binary oxide catalysts based on silica."

report submitted to 3rd Intl Cong on Catalysis, Amsterdam, 20-25 Jul 64.

Inst of Catalysis, Siberian Dept, AS USSR, Novosibirsk.

BORESKOV, G.K.; BUKANAYEVA, F.M.; DZIS'KO, V.A.; KAZANSKIY, V.B.; PECHERSKAYA, Yu.I.

Electron paramagnetic spectra of deposited chromium oxide catalysts used for ethylene polymerization, and the nature of their activity. Kin. i kat. 5 no.3:434-440 My-Je '64.

(MIRA 17:11)

1. Institut kataliza Sibirskogo otdeleniya AN SSSR i Institut khimi-cheskoy fiziki AN SSSR.

5/0195/64/005/004/0681/0688

AUTHOR: Dzis'ko, V. A.; Makarov, A.D.; Borisova, H.S.; Akimova, N.V.

TITLE: Effect of chemical composition and mode of preparation on the physicochemical and catalytic properties of oxide catalysts of complex composition. I Zircon-lum silicate catalysts

SOURCE: Kinetika i kataliz, v. 5, no. 4, 1964, 681-688

TOPIC TAGS: silica, zirconium oxide, zircon, catalyst, catalyst preparation, catalyst acidity, silicagel, oxide catalyst

ABSTRACT: The effect of the mode of preparation and thermal treatment on the catalytic activity of zirconium silicate (ZrO₂-SiO₂) catalysts prepared by different methods (Impregnation and coprecipitation) was investigated. Tabulated experimental data obtained for samples based on sodium silicate, all annealed 4 hrs. at 500C, show that an increase in the pH of the medium from 5 to 8 during aging decreases the surface from 300 to 180 m²/g, while the amount of chemisorbed sodium ions strongly increases. The ion-exchange washing of freshly precipitated gel permits the sodium ion content to be decreased to 0.006%. The effect of the zirconium dioxide content on the physicochemical properties of catalysts based on silicon ethylate was also investigated. After the addition of 0.1% ZrO₂ to silicagel, a

noticeable acidity appears. All catalysts containing more than 0.33% ZrO2 lonize anthraquinone. At 1% ZrO2 and below, the concentration of the acid centers increases proportionally to an increase in ZrO2 content. For samples containing 1-25% Zr02 the increase in the concentration of acid centers proceeds slowly. With a further increase in the ZrO₂ content, the concentration of acid centers passes through a flat maximum, then decreases, the maximum concentration of acid centers on the surface being 1.3 μ equiv./m² at 14-57 mol.% ZrO₂. The reasons for the slight change in the number of acid centers on the surface when the ZrO2 content is increased above 25% are given. The catalytic activity of the samples in the decomposition of isopropyl and ethyl alcohols was also studied in relation to the chemical composition of the samples. In the range of 10-25% $\rm Zr0_2$, the specific activity is approximately constant. When the catalytic activity and the concentration of acid centers were plotted against ZrO2 content in the catalyst, the activity varied in direct proportion to the concentration of acid centers on the surface. The activity is also affected by impurities from the air or alcohol, especially strongly in the case of samples with a low ZrO2 content. The effect of thermal treatment on the catalytic properties of these catalysts was also investigated; the data are tabulated. It is concluded that the activity of $ZrO_{2^{-}}$ SiO2 catalysts is determined by the number of acid centers on the surface and that the catalytic activity of the acid centers does not depend on the ratio of ZrO2 _to, \$102, the mode of preparation or the thermal treatment. "The authors express

their gratitude to Yu. G. Sy*cheva, M. V. Kostyukova and L. Dronova for taking part in the experimental work." Orig. art. has: 3 figures, 4 tables and 3 formulas.

ASSOCIATION: Institut kataliza SO AN SSSR (Institute of Catalysis, SO AN SSSR); Fiziko-khimicheskiy institut im. L. Ya. Karpova (Institute of Physical Chemistry)

SUBMITTED: 100ct63

ENCL: 00

SUB CODE: IC, GC

NO REF SOV: 006

OTHER: 001

Card 3/3

\$/0195/64/005/004/0689/0695

AUTHOR: Dzis'ko, V. A.; Borisova, H. S.; Akimova, N. V.

TITLE: Effect of chemical composition and mode of preparation on the physicochemical and catalytic properties of oxide catalysts of complex composition. II.

Aluminosilicate catalysts

SOURCE: Kinetika i kataliz, v. 5, no. 4, 1964, 689-695

TOPIC TAGS: alumina, silica, aluminosilicate, catalyst, silicic ethylate, ammonia, anthraquinone, catalytic activity, acidity, catalyst preparation, oxide catalyst, ampholite, catalyst acidity, cumol cracking

ABSTRACT: The effect of the mode of preparation on the acidity and catalytic properties of aluminosilicate catalysts prepared by different methods (impregnation and coprecipitation) was investigated; the data are tabulated. The measurements showed that aluminosilicate catalysts are strong acids: almost all the samples lonized anthraquinone, except those which had a very small number of acid centers. Treatment with moist nitrogen at 150C did not affect acidity. The ratio of the number of acid centers in hydrated and anhydrous samples, characterizing the degree of reaction of the aluminum oxide, depended on both their Al₂0₃ content and the mode of preparation. Treatment of impregnated silicagel with ammonia increased the Cord 1/3

degree of combination of aluminum oxide. In a sample containing 5% Al₂O₃, all the aluminum oxide was combined with silicon dioxide and the degree of reaction remained higher than for samples not treated with ammonia. One result of the different degrees of reaction of aluminum oxide with silica is the different number of acid centers on the surface of the catalyst. Samples obtained by coprecipitation have the highest number of acid centers. On increasing the Al_{203} content from 0.1 to 1%, the number of acid centers increases proportionally to the Al₂0₃ content. A further increase in the Al203 content decreases the growth of acid centers. In the range of 20-75% Al203, equivalent to a change in SiO2:Al203 ratio from 6.6 to 0.5, the concentration of acid centers remains constant, about 1 µequiv./m². At an Al203 content higher than 75% the concentration decreases. When the catalytic activity of synthetic samples was tested in the cracking of cumol, it was found that the catalytic activity of the acid centers in catalysts containing 1-90% $\mathrm{Al}_2\mathrm{O}_3$ is approximately constant and does not depend on the mode of preparation or the ratio of catalyst components. It is concluded that the velocity constant related to a single acid center is a characteristic value for the catalytically active component and can be used for the rational evaluation of substances having catalytic activity in processes of an acidic nature. "The authors thank M. V. Kostyukova for determining the acidity of the samples." Orig. art. has: I figure. 3 tables and 3 formulas.

Card 2/3

ASSOCIATION: Institut kataliza 80 AN SSSR (Institute of Catalysis, SO AN SSSR); Fiziko-khimicherkiy institut im. L. Ya Karpova (Institute of Physical Chemistry)

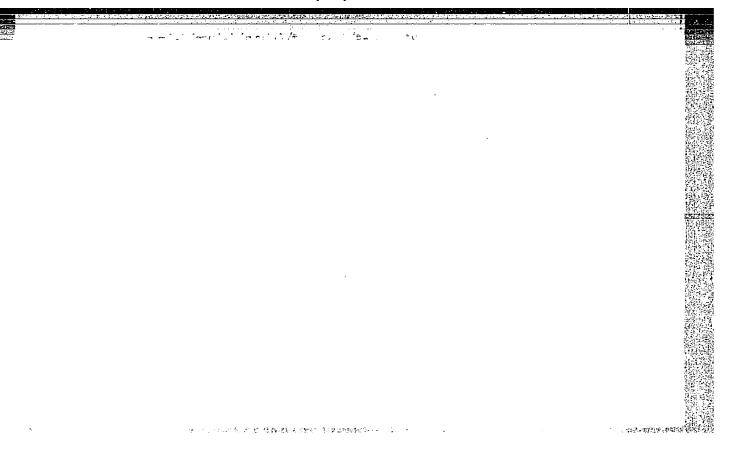
SUBMITTED: 07Jan64

ÈNCL: 00

SUB CODE: IC, GC

NO REF SOV: 012

OTHER: 006



L 13290-66 EWT(m)/EWP(j)/T/_ETC(m) RM/DS/WW

ACC NR: AP6000323 SOURCE CODE: UR/0286/65/000/021/0011/0011

INVENTOR: Dzis'ko, V. A.; Borisova, M. S.; Krasilenko, N. P.; Tarasova, D. V.

39

ORG: none

TITLE: A method for producing silica gel. Class 12, No. 175925 [announced by the Institute of Catalysis, SO, AN, SSSR (Institut kataliza AN SO SSSR)]

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 21, 1965, 11

TOPIC TAGS: silica gel, atalpris CHEMICHL PRECIPITATION, AQUEOUS SOLUTION, OEL

ABSTRACT: This Author's Certificate introduces a method for producing silica gel by precipitating hydrogel from aqueous solutions of sodium silicate and an ammonium salt of a strong acid with intense mixing followed by filtering and washing of the resultant hydrogel. A granulated silica gel with high strength is produced by treating the hydrogel in a masticator or on rollers.

SUB CODE: 07/ SUBM DATE: 21Jun64/ ORIG REF: 000/ OTH REF: 000

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Card 1/1

____UDC: 66.097.3 661.183.7

DZIS'KO, V.A.; BORISOVA, M.S.; KARAKCHIYEV, L.G.; MAKAROV, A.D.; KOTSARENKO, N.S.; ZUSMAN, R.I.; KHRIPIN, L.A.

Effect of chemical composition and the method of proparation on the physicochemical and catalytic properties of oxide catalysts of complex composition. Part 3: Silica-magnesia catalysts. Kin. i kat. 6 no. 6:1033-1040 N-D 165 (MIRA 19:1)

1. Institut kataliza Sibirskogo otdeleniya AN SSSR. Suimitted August 13, 1964.

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411920012-1"

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KOLOVERTNOV, G.D.; BORESKOV, G.K.; DZIS'KO, V.A.; POPOV, B.I.; TARASOVA, D.V.; BELUGINA, G.G.

Tron-molybdenum oxide catalyst of methanol oxidation to formaldehyde. Part 1: Specific activity as a function of the catalyst composition. Kin. i kat. 6 no. 6:1052-1056 N-D *65 (MIRA 19:1)

1. Institut kataliza Sibirskogo otdeleniya AN SSSR. Submitted January 25, 1965.

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\$/195/61/002/005/014/027

E111/E485

5.1190

Dzisyak, A.P., Boreskov, G.K., Kasatkina, L.A.,

Kochurikhin, V.Ye.

TITLE:

Influence of additions of alkali-metal sulphates on the catalytic properties of vanadium pentoxide in the oxygen isotope-exchange reaction

PERIODICAL: Kinetika i kataliz, v.2, no.5, 1961, 727-731

TEXT: The authors report their investigation of the catalytic activity of vanadium-pentoxide preparations, with additions of analytical reagent purity sulphates of lithium, sodium, potassium, rubidium or caesium (0.1 mol per mol of V_2O_5) as promoters, in the temperature range 400 to 480°C and 40 mm Hg oxygen pressure. For potassium sulphate mol fractions of 0.025 and 0.05 were also tested. The method and apparatus used to study the homomolecular reaction $O_2I_6 + O_2I_8 = 20I_5OI_8$ were described in an earlier paper (Ref.6: Kinetika i kataliz, v.2, 1961, 386). Furthermore, the isotope exchange of each of the preparations with molecular oxygen was studied when no homomolecular exchange was taking place. Results are compared with those for pure vanadium pentoxide

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Card 1/4

33489 S/195/61/002/005/014/027 E111/E485

Influence of additions of alkali- ...

obtained previously (Ref.3: Kinetika i kataliz, v.1, 1960, 229 and Ref.6: as quoted above). Preliminary experiments had shown that both the rates R and K, respectively, of the catalyst/gas and the homo-molecular follow the first-order equation. When a catalyst enriched by a concentration of 010 equal to that in the gas is used, R can be calculated from

$$R = \frac{2.3}{\tau S} \frac{N_r \cdot N_{\tau}}{N_r + N_{\tau}} \lg \frac{C_{1s}^0 - C_{1s}^*}{C_{1s} - C_{1s}^*}, \tag{1}$$

and K from

$$K = \frac{2.3}{\tau S} \lg \frac{C_{34}^{\bullet} - C_{34}^{\circ}}{C_{34} - C_{34}} \tag{2}$$

In the case of simultaneous isotope exchange with the catalyst, the equation is

$$\frac{\frac{KS}{N_{1}}^{2}}{\varepsilon} = \frac{C_{34}^{0} - 2C_{18}^{0} + 4C_{18}^{*}(C_{18}^{0} - C_{18}^{*}) + 2(C_{18}^{0} - C_{18}^{*})^{2} \frac{K - R}{K - 2R}}{C_{34} - 2C_{18} + 4C_{18}^{*}(C_{18} - C_{18}^{*}) + 2(C_{18} - C_{18}^{*})^{2} \frac{K - R}{K - 2R}}$$
(3)

Card 2/4

33489
Influence of additions of alkali- ... E111/E485

In these equations R and K are in g/m² hour, Nr is the amount of oxygen in the gas phase, g; NT that in the catalyst g; S is the surface of the catalyst charge, m²; t is time, hours; C18, C18 and C18 are the O18 proportion in the gas at the initial c34, C34 and C34 are the corresponding proportions of O16018. The activation energy and rate values for the two reactions increased by the presence of the promoters, the order of promoter in the following order: Li2SO4 < Na2SO4 < K2SO4 < Rb2SO4 < C52SO4. Even 0.025 mol of K2SO4 per mol pentoxide gave a considerable increase in both K and R, which were also found to be linearly tables and 7 references: 4 Soviet-bloc and 3 non-Soviet-bloc. Ref.2: C.R.Kinney, J.Pincus, Ind. Eng. Chem., v.43, 1951, 2880; Lard 3/4.

33489

Influence of additions of alkali- ...

S/195/61/002/005/014/027 E111/E485

ASSOCIATION: Moskovskiy khimiko-tekhnologicheskiy institut im. D.I.Mendeleyeva (Moscow Chemical-technological Institute im. D.I.Mendeleyev)

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Card 4/4

35064

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S/195/62/003/001/005/010 E071/E136

AUTHORS:

Dzisyak, A.P., Boreskov, G.K., and Kasatkina, L.A.

TITLE:

An investigation of homomolecular oxygen exchange on

the metal oxides of the fourth period

PERIODICAL: Kinetika i kataliz, v.3, no.1, 1962, 31-90

TEXT: The object of the work is a systematic investigation of homomolecular exchange of oxygen on oxides of transitional metals of the fourth period in order to elucidate the mechanism of the intermediate interaction of molecular oxygen with oxides and the establishment of the relationship between the catalytic activity and chemical nature of an oxide. In the reported part of the work the apparent activation energy and the order in respect of oxygen of homomolecular oxygen exchange

 $^{16}0_2 + ^{18}0_2 = 2 ^{16}0 ^{18}0$

on the above oxides were determined. The study was carried out in a static circulation apparatus described earlier (Ref.5: Kinetika i kataliz, v.2, 1961, 386, 727) by the present authors and V.Ye. Kochurikhin. The starting non-equilibrium mixtures Card 1/4

X

An investigation of homomolecular ... S/195/62/003/001/005/010 E071/E156

of isotopic oxygen molecules were prepared by mixing enriched oxygen with a concentration of 180 of 37% with natural oxygen in a ratio of 1:1. The control of all types of oxygen molecules was carried out with a mass spectrometer MM-1305 (MI-1305). The relative accuracy of measuring the concentration was \pm 1%. A sample of oxide charged into the reaction vessel was treated for 8 hours in a vacuo (10-5 mm Hg) at 400 °C. Subsequently the isotopic exchange of the oxide investigated with molecular oxygen was carried out. To remove the distorting influence of isotopic exchange, all samples were kept in oxygen with the initial concentration of heavy isotope until cessation of the exchange. Moreover, before each measurement the catalyst specimen was retained in the initial mixture to establish a stationary composition of the oxide. Due to this treatment the content of $^{18}\mathrm{O}$ in gas during homomolecular exchange reaction remained constant. The preparation of oxides was described previously (Ref. 8: V.V. Popovskiy, G.K. Boreskov, Sb. Problemy kinetiki i kataliza, v.10, Izd-vo AN SSSR, M., 1960, p.67 (Symposium: Problems of Kinetics and Catalysis, v.10, edited by Card 2/4

\$/195/62/003/001/005/010 An investigation of homomolecular ... E071/E136

AS USSR, p.67). The powders were pressed into tablets and crushed into grains of 3 mm. Specific surface of oxides was determined by low temperature nitrogen absorption. It was established that the activity of the oxides investigated in respect of homomolecular exchanges increases in the following order: ${\rm TiO}_2 < {\rm V}_2{\rm O}_5 < {\rm Cr}_2{\rm O}_3 < {\rm ZnO} < {\rm Fe}_2{\rm O}_3 < {\rm CuO} = {\rm NiO} < {\rm MnO}_2 < {\rm Co}_3{\rm O}_4.$ The velocity of homomolecular exchange is equal to the initial velocity of isotopic exchange between molecular oxygen and oxygen of the respective oxide. The following stages of the reaction are necessary for the homomolecular exchange: 1) adsorption desorption of molecular oxygen with its dissociation into atoms or ions; 2) migration of adsorbed atoms or ions along the surface. For isotopic exchange between oxide and gas a stage of substitution of an ion in the lattice with adsorbed oxygen is necessary. Two possible mechanisms can explain the equality of velocities of homomolecular and isotopic exchange. (1) Adsorption - desorption of molecular oxygen takes place at a much lower velocity than the exchange of adsorbed atoms or ions of oxygen with ions of lattice oxygen. In this case the ratio of Card 3/4

An investigation of homomolecular ... s/195/62/003/001/005/010 E071/E136

concentration of molecules 16_0 18_0 to 18_0 18_0 in the gas should remain constant. (2) Oxygen is adsorbed with dissociation into atoms or ions but the desorption, due to a low concentration or mobility of these atoms or ions, takes place mainly on their recombination into molecules with ions of lattice oxygen. In this case the ratio of 16_0 18_0 to 18_0 18_0 should increase in the course of the reaction. Previous experiments (Ref.5) with V_20_5 and V_20_5 with additions of alkali sulphates favour the first mechanism. However, these results cannot be transferred to other oxides without special experiments. There are 5 figures, and 3 tables.

ASSOCIATION: Moskovskiy khimiko-tekhnologicheskiy institut im.

D.I. Mendeleyeva

(Moscow Institute of Chemical Technology imeni

D.I. Mendeleyev) SUBMITTED: November 15, 1961

Card 4/4

BORESKOV, G.K.; DZISYAK, A.P.; KASATKINA, L.A.

Homomolecular oxygen exchange studied on oxides of metals of the fourth period. Part 2: Catalytic activity and bond energy of oxygen in oxides. Kin. i kat. 4 no.3:388-394 My-Je '63. (MIRA 16:7)

1. Institut kataliza Sibirskogo otdeleniya AN SSSR i Moskovskiy khimiko-tekhnologicheskiy institut imeni Mendeleyeva.

(Metallic oxides) (Chemical bonds)

(Catalysis)

DZISYAK, V.I.

Achievements of the petroleum workers of the Malgobek field. Neftianik 7 no.11:29 N 162. (MIRA 16:6)

. .

(Malgobek region(Chechen-Ingush A.S.S.R.)— Petroleum production)

DZIUBA, B.

DZIUBI, B.

"Organization of the work of Sawing Blocks in Sawadila", p. 6, (FRESTOL FRENCH, Vol. 5, No. 9, Sept. 1954, Warszawa, Foland)

SO: Honthly List of East European Accessions, (EMAL), IC, Vol. 4, No. 5, May 1955, Uncl.

KUCIAS, J.; DZIUBA, P.

First scientific session of the Nicholas Copernicus Polish Society of Naturalists in Katowice. Wszechswiat no.3:75-76

BUSZKA, Horst, inz.; DZIUPA, Stanislaw, mgr inz.

Gantry installation of automatic covered are welding of frames of combustion locomotives. Przegl spaw 16 no.9:224, 3-4 of cover 5 *64.

1. Department of Welding Mechanization, Welding Institute, Glivice.

DZIUBA, Stanislaw, mgr inz.; BUSZKA, Horst, inz.

Universal OS la type welding positioner. Przegl spaw 16 no.10: 239-241 0 '64.

1. Department of Mechanized Welding, Welding Institute, Gliwice.

DZIUBA, W.

DZIUBA, T.

"Errors in supply planning. p. 262." (ZYGIE GOSFODARCZE, Vol. 7, no. 7, Mar. 1953, Warszowa, Poland.)

SO: East European, L. C. Vol. 2, No. 12, Dec. 1953

DZIUBA, W .: OSTASZENICZ, J.

"Methods of Determining the Area and Degree of Damage Caused by Leaking Currents," P. 241. (GAZ, WODA I TECHNIKA SANITARNA, Vol. 28, No. 8, Aug. 1954. Warszawa, Poland)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 4, No. 1, Jan. 1955 Uncl.

DZIUBA, W., OSTASZEWICZ, J.

"Prady b/adzace" (Stray currents), by W. Dziuba, J. Ostaszewicz. Reported in New Books (Nowe Ksiazki), No. 15, August 1, 1955

DZIUBA, W.

DZIUBA, W. The problem of vagrant current in Poland. p. 248.

Vol. 15, No. 11, Nov. 1955. WIADOMOSCI ELECTROTECHNICZNE TECHNOLOGY Warszawa, Poland

So: East European Accession, Vol. 5, No. 5, May 1956

DZIUBA, Wladyslaw

Problem of stray currents on the Polish State Railroads. Przegl kolej elektrotech 14 no.9:261-265 S 162.

1. Instytut Elektrotechniki, Warszawa.

DZ-UB4, Madyslaw, dr inz.

Criteria for the computation of rail traction networks aiming to reduce the value of stray currents. Inst elektrotech prace 11 no.33:69-111 163

1. Zaklad Trakcji Makirycznej i Prestownikow, Instytut Flak-trotechniki, Warszawa.

BROUGHALL, J.A.; DZIUBA, W., mgr., inz. (translator)

Newest achievements in the electrification of railroads in Great Britain by the 50 Hz current system. Probl kolejn no.20:120-130 '62

5(4) AUTHORS:

Giriat, W., Dziuba, Z.

POL/45-18-6-5/5

TITLE:

Automatic Device for the Zone-refining of Metals and

Semiconductors 2

PERIODICAL:

Acta Physica Polonica, 1959, Vol 18, Nr 6, pp 589-592 (Poland)

ABSTRACT:

The authors describe the method and the device for highefficiency automatic zone refining. This method was employed
for the first time in 1952 for the production of very pure
germanium. It may be applied whenever a difference in the
concentration of impurities occurs on the solid - liquid phase
boundary. In zone refining technique three modifications
are possible, which are discussed in the introduction. Figure 1
contains a schematical drawing of an automatic zone-refining
device, and figure 2 shows such a drawing of the device for
preparing the quartz ampoules. Preparation may take place in
vacuum or in a neutral gas. Figure 3 shows a heating element
essentially consisting of kanthal wire spirals; such an element
has a power output of 320 w. The device shown here and in
figure 4 (photo) was tested for more than 1000 hours, and zone
refining of the metals Sb, Cd, In, Te, Zn, Pb, Bi and the semi-

Card 1/2

Automatic Device for the Zone-refining of Metals and Semiconductors

POL/45-18-6-5/5

conductors Ge, InSb, GaSb, HgTe, HgSe, and In Te, was satisfactory. The present investigation was carried out under the supervision of Professor Doctor L.Sosnowski. There are 4 figures and 6 references.

ASSOCIATION:

Institute of Physics, Polish Academy of Sciences, Warsaw

SUBMITTED:

May 25, 1959

Card 2/2

DZIUBA, Zbigniew

Thermoelectrolytic method of cutting semiconductor mercury compounds. Przegl elektroniki 3 no.9:505-507 S *62.

1. Instytut Fizyki, Polska Akademia Nauk, Warszawa.





DZIUBA, Z.

Effect of doping with III-d group atoms on the electric properties of HgTe. Acta physica Pol 25 no.5:757-759 My '64.

1. Institute of Physics, Polish Academy of Sciences, Warsaw.

DZIUBA, Z.

Preparation of high purity HgTe. Acta physica Pol 26 no.5:897-903 N '64.

1. Institute of Physics of the Polish Academy of Sciences, Warsaw. Submitted February 24, 1964.

Card 1/1

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I 01912-67 T RO/JK ACC NR: AP6035157 (A) SOURCE CODE: PO/0081/65/019/002/0219/0220 DZIUBEK, Z.; WYSOCKA, B.; RZEMUSKA, S.; KOWALIK, G. and PIETRZYKOWSKI, J. 21 [Affiliation not given]. В "Analysis of Food Poisonings from Two Districts of the Warsaw Regions Nowy Dwor and Siedlee." Warsaw, Przelad Epidemiologiczny, Vol 19, No 2, 1965; p 219-220. Abstract: Data on 866 cases noted from 1959 to 1963, including 57 in adults. Of these, 463 were food poisonings and 403 were nonspecific diarrheal gastroenteritis. Food poisoning occurred primarily in the summer. Data on severity, hospitalization, and foods involved are given for several of the major outbreaks. Presented at the 3rd Scientific Assembly of Polish Epidemiologists and Infectologists. Krakow, 5-6 Oct 64. [JPRS] TOPIC TAGS: digestive system disease, food sanitation SUB CODE: 06 / SUBM DATE: none

"APPROVED FOR RELEASE: 03/13/2001

CIA-RDP86-00513R000411920012-1

31539-66 ETC(f)/T FMP(t)/ETI IJP(c) RDW/JD ACC NR. AP6010792 SOURCE CODE: PO/0053/66/000/063/0111/0117 AUTHOR: Baranowski, J.; Dziuba, Z.; Galazka, R.; Giriat, W.; Szymanska, W. Zakrzewski, T. ORG: Institute of Experimental Physics, Warsaw University (Instytut Fizyki Doswiadczalnej Uniwersytetu Warszawskiego); Physics Institute, PAN (Instytut Fízyki, PAN) TITLE: Electrical and photomagnetic properties of single crystals of the CdxHg1-xTe semiconductor system SOURCE: Przeglad elektroniki, no. 3, 1966, 111-117 TOPIC TAGS: single crystal, crystal property, semiconductor crystal, electric property, photomagnetic effect ABSTRACT: The paper presents some results of investigations on the $Cd_XHg_{1-X}Te$ system. Single crystals of x = 0.00, 0.05, 0.10, and 0.15 were used for the investigations. The dependence of electrical conductivity δ and the Hall constant R_{H} on temperature in the range from 4.2K to 400K was investigated. The dependence of R_H and δ on magnetic field intensity was also measured. The materials investigated show a high electron mobility; the maximal values of electron mobilities are of the order of 10^5 cm²/Vsec. Mobility increases with increasing x and attains its maximum values for x at about 0.1. In these materials, at temperatures below room temperature there is a very strong dependence of RH and 8 on magnetic field intensity. It was determined that for x = 0.00 the width of the forbidden energy gap at the temperature of absolute zero is $E_g = 0^{\pm} 0.0003$ eV. For x > 0, $E_g > 0$, and x = 0.05 it is $E_g = 0.015$ eV, Card

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ACC NR. AP6010792

and for x = 0.15, $E_g = 0.06$ eV. The photomagnetic effect was investigated at room temperature. High sensitivity to infrared radiation was established. The material with x = 0.10 is sensitive to radiation from the visible range to wavelength of 10 microns. It was also established that the photomagnetic effect for x = 0.10 depends on the frequency of incident radiation. This dependence is caused by the appearance of a thermal component (Nernst effect). The experimental results are presented in the form of curves and compared with published data. The results are discussed in detail in the light of existing literature. The authors thank Prof. L. Sosnowski for his interest in this work and discussions. The authors also thank Docent Dr. W. Wardzynski, J. Ginter, Dr. J. Mycielski, and Dr. J. Rauluszkiewicz for valuable comments they made in the course of this investigation. Orig. art. has: 7 figures.

SUB CODE: 20 / SUBM DATE: none / ORIG REF: 003 / OTH REF: 006 / SOV REF: 002

Card 2/2 L C



POLAND

BARANOWSKI Jacek: DZIUBA, Zbigniew: GALAZKA, Robert; GIRIAT, Witold; SZYMANSKA, Wanda; ZAKRZEWSKI, Tadeusz

1. Institute of Experimental Physics, University of Warsaw (Instytut Fizyki Doswiadczalnej Uniwersytetu Warszawskiego) - (for ?) 2; Institute of Physics, Polish Academy of Sciences (Instytut Fizyki, Polskiej Akademii Nauk) - (for ?)

Warsaw, Przeplad elektroniki, No 3, March 1966, pp 111-117

"Electric and photomagnetic properties of the $Cd_XHg_1=_X$ Te single crystals."

DZIUBAK, M.

Municipal automobile roads in the light of the world and results of the 4th international Road Traffic Week in Copenhagen. P 58

DRCGO-NICTWO. (Wydawnictwa Komunikacyjne) Warszawa, Foland. Vel. 14, no. 3, March. 1959

Monthly List of East European Accessions (EEAI) LC. Vol. g, no. 7, July 1959

Uncl.

DZIUBAN, M.

DZIUBAN, M.

Latest contributions on the life cycle of malaria parasite. Bratisl.lek.listy 30 no.11-12:853-860 Nov-Dec 50. (CIML 20:5)

1. Fifth Department of Parasitology, State Health Institute, in Bratislava.

DZIUBAN, M.

Parasite Tyroglyphus farinea de Greer in human feces. Bratisl. lek. listy 31 no. 11-12:1168-1177 1951. (CLML 23:1)

1. Of the Fifth Department of Parasitology of the Third Division of Microbiology of the State Health Institute, Bratislava.

DZIUBAN, M.

DZIUBAN, M., Bratislava, Sasinkova 6; HANZEL, St.

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1. 2 Oblastneho ustavu epidemiologie a mikrobiologie v Bratislave (HEIMINTHS helminthol. in Russia, develop.)

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On the development of microbiological work in Slovakia with special reference to its eastern regions. Cesk. epidem. 12 no.1:22-26 Ja 163.

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- 1. TZIUBANDOVSKIY, K. A.
- 2. USSR (600)
- 4. Grinding and Polishing
- 7. Automatic protective hood for grinder, Stan. i instr. 24 No. 2, 1953

9. Monthly List of Russian Accessions, Library of Congress, May 1953, Uncl.

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Uncl.

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Joining mill fans by common channel or mill fan chambers with blast air fan. Gosp paliw 11 Special issue no.(95):42-43 Ja '63.

1. Elektrocieplownia, Zeran.

DZ14BEK, M.

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"Taking samples from phosphorite deposits." p. 24, (PREZEGIAD SECLOSICZNY. No. 1, Jan. 1955. Warszawa, Poland)

SO: Monthly List of East European Accessions. (EEAL). LC. Vol. 4, No. 4. April 1955. Uncl.

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"From Anatomopathologic Casuistry. 1. A Calf, an Octoped Monster.

2. Serous Cyst of the Hepatic Capsule in a Calf. 3. Sarcoma of the Gum
in a Dog." p. 502, (MEDYCYNA WETSRYNARYJNA, Vol. 9, No. 11, Nov. 1953,
Warszawa, Poland.)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 4, No. 5, May 1955, Uncl.

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Milk ring test of the milk of cows immunized in adult age with strain 19. Rocs nauk roln wet 70 no.1/4:213-215 '60. (EEAI 10:9)

(Milk) (Cattle) (Immunity) (ABR test)

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Fluctuation of temperature and humidity in the cattle sheds of the state farm in Swadzim under the influence of outdoor conditions. Rocaniki Wys Sakola Rol Poznan no.12:135-152 '62.

1. Katedra Zoohigieny, Wyzsza Szkola Rolnicza, Poznan.

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Influence of fluor compound contaminated environment on ruminants. Prace nauk roln i lean 16 no.1:1-62 '63.

1. Katedra Zoohigieny, Wyzsza Szkola Rolnicza, Poznan. Kierownik: prof. dr A. Chwojnowski.

DZIUBINSKI, Krzysztof

Sudden hydrocephalus caused by an isolated cystricercus of the 4th ventricle. Neuropat. Pol. 3 no.1/2:59-63 Ja-Je '65.

1. Z Zakladu Neuropatologii Polskej Akademii Nauk w Warszawie (Kierownik: prof. dr. med. F. Osetowska).

DZIUBINSKI, Stanislaw, mgr inz.; ZAREMBA, Tadeusz, inz.; MALENTOWICZ, Ryszard, mgr inz.

Modernization of the Sp-60 type linear heater and its use for heating skin plates of freight car doors. Przegl spaw 16 no.10: 235-238 0 '64.

1. Welding Institute, Gliwice (for Dziubinski, Zaremba). 2. Zastal Works, Zielona Gora (for Malentowicz).

DZIUBEK, Zdzislaw

Prevention of serum reactions. Wiad. 1ek. 18 no.2:105-108 15 Ja '65

1. Z Oddzialu Zakaznego Szpitala Powiatowego w Nowym Dworze Mazowieckim (ordynator: lek. med. Z. Dziubek).

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Corn Picker (Machine)

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9. Monthly List of Russian Accessions, Library of Congress, September 19536. Unclassified.

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A case of paraosteal osteoma of Geschicter and Copeland observed during the period of 11 years without therapy. Nowotwory 13 no.2:179-186 '63.

1. Z Pracowni Radiodiagnostycznej Instytutu Onkologii w Warszawie Kierownik: dr med. J. Buraczewski Dyrektor: prof. dr med. W. Jasinski. (OSTEOMA) (KNEE)

DZIUKOWA, Janina; LEWINSKI, Tadeusz

Case of solitary localised circumscribed of the rleura with an unusual localization in the intralobar fissure. Pol. tyg. lek. 20 no.36:1372-1373 6 S '65.

1. Z Zakladu Radiodiagnostyki (Kierownik: doc. dr. med. J. Burz-czewski) i z Oddzialu Chirurgicznego (Kierownik: prof. dr. med. T. Koszarowski) Instytutu Onkologii w Warszawie.

DZIUK, Z.; JETHON, Z.

Behavior of the circulatory and respiratory systems during the course of training in a military conditioning center. Acta physiol.polon. 11 no.5/6:692-693 '60.

1. Z Wojskowego Instytutu Medycyny Lotniczej, Szef Instytutu: dr S.Haduch.

(PHYSICAL EDUCATION AND TRAINING) (CARDIOVASCULAR SYSTEM physiol) (RESPIRATORY SYSTEM physiol)

P/04t/62/000/002/003/008 1004/1204

AUTHORS:

Dziuk, Zbigniew and Galubińska, Krystyna

TITLE:

Certain problems of selection and training of cosmonauts

PERIODICAL:

Astronautyka, no.2,1962, 10 - 12

TEXT: The Soviet and U.S. requirements in the selection and training of astronauts are similar. The psychological criteria include high level adaptability in training, motivation, intellectual ability, maturity, emotional stability, and self confidence. The astronaut's selection program is designed to select individuals who have the greatest probability of success. Hotivation is considered as one of the main factors which help the commonant to overcome the effects of high acceleration, weightlessness, noise, and isolation. Motivation is most closely connected with frustration, which may be use to insufficient fulfillment of the basic needs. Frustration is accompanied by excessive emotional excitability, aggressivness, breakdowns, and depressions. These states obviously decrease the efficiency of the cosmonant. The training program includes general physical training simed at increasing the cosmonant's unspecific

Caru 1/2

DZIUKOWA, Janina

The problem of primary tumors of the pterygomaxillary fossa. Mosotwory 12 no.1:39-45 Ja-Mr 162.

1. Z Pracowni Radiodiagnostycznej Instytutu Onkologii w Warszawie Kierownik Pracowni: dr med. J. Buraczewski Dyrektor Instytutu: prof. dr med. J. Iaskowski.

(FACIAL BONES neopl)

DZIUKOWA, Janina

Neoplastic changes in the pterygo-maxillary region in the radiological picture with special reference to the tomographic method. Pol. przegl. radiol. 27 no.1:1-10 '63.

1. Z Pracowni Radiodiagnostycznej Instytutu Onkologii w Warszewie Kierownik Pracowni: dr med. J. Buraczewski Dyrektor Instytutu: prof. dr med. J. Laskowski.

(SPHENOID SINUS) (MAXILLARY SINUS)

(NASOPHARYNGKAL NEOPLASMS) (FACIAL NEOPLASMS)

(TOMOGRAPHY)

BURACZEWSKI, Janusz, dr. med.; DZTUKOWA, Janina

Curettage and treatment of benign bone tumors. Pol. tyg. lek. 20 no.3:105-108 18 Ja 165

1. Z Zakladu Rentgenodiagnostyki Instytutu Onkologii w Warszawie (Kierownik zakladu: dr. med. Janusz Buraczewski).

DZIULAK, Tadeusz, dr inz.,

Variable asymmetric distribution in one-way scavenging of cylinders of two-stroke ship engines. Przegl mech 23 no.7: 209-211 10 Ap '64.

1. Starszy wykladowca, Katedra Cieplnych Maszyn Tlokowych, Wydzial Mechaniczny Energetyczny, Politechnika Slaska, Gliwice.

DZIUNIKOWSKI, Bodhan; FLORKOWSKI, Tadeusz; JURKIEWICZ, Leopold; TURKOWA, Boguslawa

Determination of lead content in ore samples by means of the method of absorption of or X rays. Nukleonika 7 no.9:561-572 '62.

1. Academy of Mining and Metallurgy, Institute of Nuclear Techniques, Krakow, and Academy of Mining and Metallurgy, Department of Physics II, Krakow.

DZIUNIKOWSKI, Bohdan

Speedy determination of lead concentration in polymetallic ore samples by absorption analysis. Nukleonika 8 no.8:553-563 163.

1. Akademia Gorniczo-Hutnicza, oraz Instytut Techniki Jadrowej, Krakow.

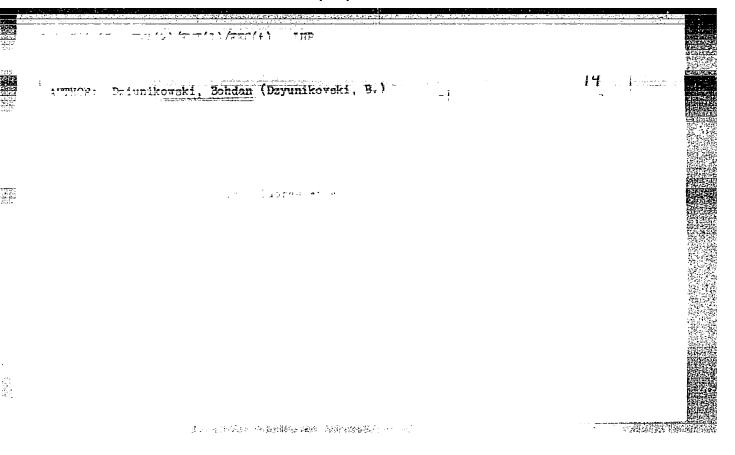
DZIUNIKOWSKI, Bohdan; LUBECKI, Andrzej

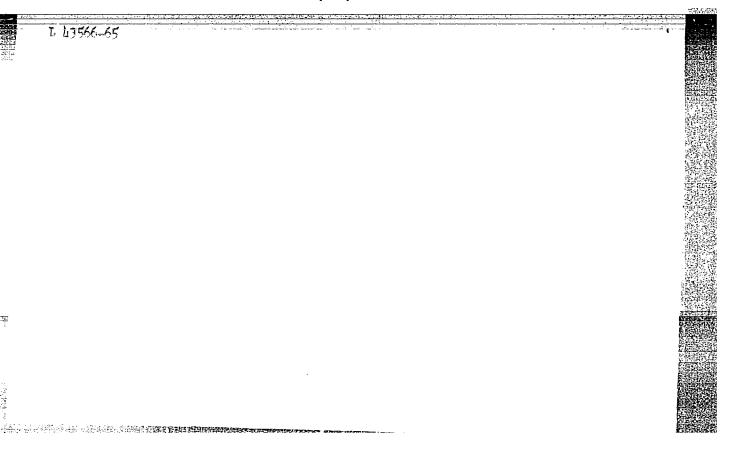
Application of back-scattering of β - particles for determination of heavy elements in samples of variable chemical composition. Nukleonika 8 no.10:687-694 '63.

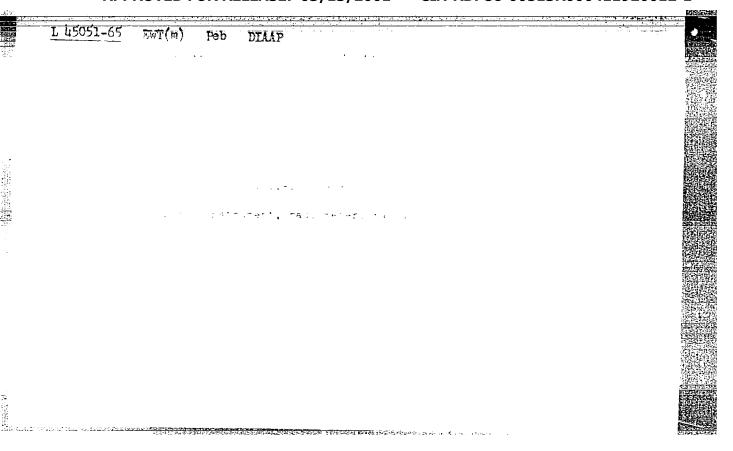
1. Instytut Techniki Jadrowej, Akademia Gorniczo-Hutnicza, Krakow.

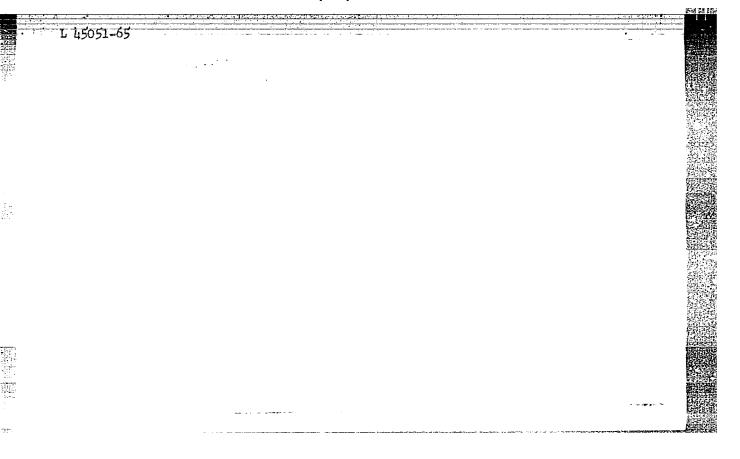
EZTUNIKOWSKI, Bohdan, dr inc.

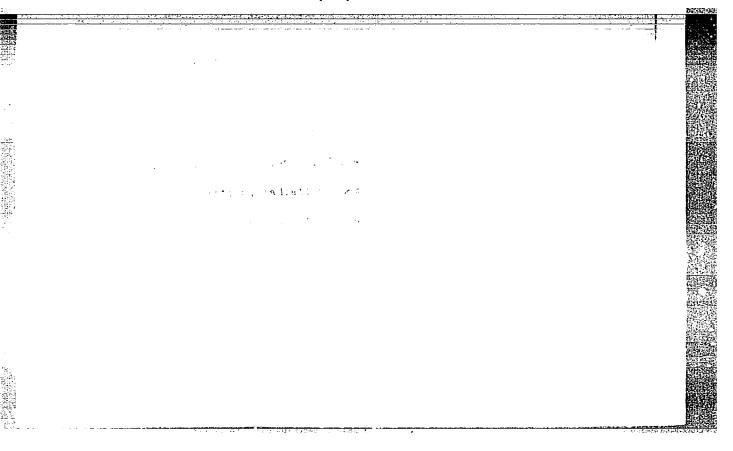
Radiometric ore analyzing methods. Pt. 1. Rudy i metale 9 no.10:550-553 0 '64.

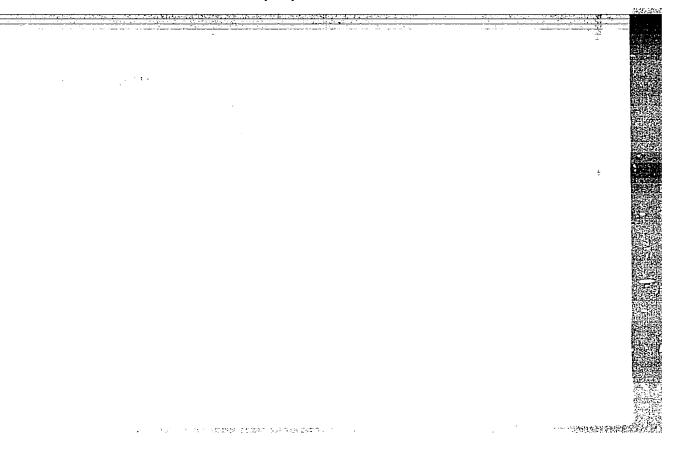












Fuel Abstracts Vol. 14 No. 4 October 1953 Gasification

DETONATIONAL IL

3125. Oxidation by Steam in Underground Gasification of Coal. Dziunikowski, K. (Przegl. gorn. (Min. Rev.) Mar. 1953, vol. 9. 107-111). A method is proposed for calculating the ratio of steam to other oxidizing gases, assuming the maintenance of suitable temperature for the gasification process. The different conditions of underground and surface gasification are pointed out, and the different temperatures used in consequence. Calculations show that in surface gasification the ratio applied in practice agrees with theory; for underground gasification in winter weather the use of steam as oxidizing gas is not indicated, but with pure oxygen the ratio of steam to oxygen is calculated at 1.3 to 1. (L).

DZIUNIKOWSKI, K.

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"Reactivity of Coal in Underground Casification", P. 379, (REGLAD GCRELEY, Vol. 10, No. 11, 'overber 1974, Stalinogred, Foliald)

SC: Monthly List of Fast European Accessions (EFAL), LC, Vol. 4, No. 3, March 1955, Uncl.

DZIUNIKOWSKI, KASIMIERZ

POLAND/Chemical Technology, Chemical Products and Their

Application, Fart 3. - Treatment of Solid Combustible

H-22

M.corals.

Abs Jour: Peferat. Thurnal Khimiya, No 10, 1958, 33786.

Author : Kezimierz Dziunikowski.

Inst : Not gland.

Title : Undargatund Coal Gasification in Poland.

Orig Pub: Wladom. gornicze, 1955, 6, No 4, 102-105.

Abstract: No abstract.

Card : 1/1

27

DZIUNIKOWSKI, K.

Underground gasification of coal today, p. 21. (PRZEGLAD GORNICZY, Stalinogrod, Vol. 11, no. 1, Jan. 1955.)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 4, No. 2, Jan. 1955, Uncl.

I-12

DZIUNIKOWSKI KAZIMIERZ

POLAND/Chemical Technology - Chemical Products and Their

Application. Treatment of solid mineral fuels

Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 12861

Author : Dziunikowski Kazimierz

: Analysis of the Process of Underground Casification Title

of Coal

: Sposob przeprowadzenia analizy procesu podziemnego Orig Pub

zgazowania wegla. Przegl. gorniczy, 1955, 11, No 9,

329-333 (Polish)

Abstract : In the development of work carried out at the present

time in Poland, on evaluation of the current state of underground gasification of coal, are considered the methods of control of this process: a) determination of gas yields on the basis of nitrogen balance; b) determination of the emount of coal converted to gas within the seam, on the basis of data of the element

analysis of the coal, amount of gas obtained and its

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DZIUNIKOWSKI, K.

"Costs of oxygen in the underground gasification of coal."

p. 71 (Przeglad Gorniczy) Vol. 12, no. 2, Feb. 1956 Katowice, Poland

SO: Monthly Index of East European Accessions (EEAI) LC. Vol. 7, no. 4, April 1958

DZIUNIKOWSKI, K.

6th Session of the Committee on the Coal Industry of the International Labor Organization. p. 438 (PRZEGLAD CORNICZY, Vol. 12, No. 12, Dec. 1956, Stalinogrod, Poland)

SO: Monthly List of East European Accessions (EFAL) LC, Vol. 6, No. 9, Sept. 1957, Uncl.

DZIUNIKOWSKI, K.

POLAND/Chemical Technology. Chemical Products and Their I-13 Application-Treatment of solid mineral fuels

Abs Jour: Ref Zhur-Khimiya, No 3, 1957, 9227

: Dziunikowski, K. Author

Experiments with a Laboratory Gas Generator Simula-Not given Inst

ting the Underground Gasification of Coal Title

Prace glown. inst. gorn, 1956, No 182, 3-15 (in Polish with summaries in English, French, and Rus-Orig Pub:

sian)

In Belgium experiments have been carried out with Abstract:

the gasification of coal under conditions identical to those prevailing during underground gasification. The experiments have shown that the necessary process parameters of the underground gasification process can be obtained in surface model gas gener ators (G). As a result several modifications of such G have been built first in Belgium and later

Card 1/3

POLAND/Chemical Technology. Chemical Products and Their I-13
Application--Treatment of solid mineral fuels

Abs Jour: Ref Zhur-Khimiya, No 3, 1957, 9227

Abstract: in Poland. The G consist of a cemented block of fuel (coke, black coal, and brown coal) 10-20 m long of rectangular or circular cross section surrounded by a cement and fireclay or steel jacket with gas inlets at the two ends. The block is pierced by a longitudinal channel in its lower part and the channel communicates with a series of verticle shafts. The G can be placed in a horizontal or dipping position, and experiments were carried out either with oxygen or steam-oxygen blasts. The

experiments have shown the possibility in principal of carrying out the gasification process in the model block in such a way as to produce a gas of stable composition having a heating value of over 2000 kcal/m3. The essential role of the temperature factor both during the period of fanning and during the gasification process itself has been

card 2/3

POLAND/Chemical Technology. Chemical Products and I-13
Their Application - Treatment of solid mineral fuels

Abs Jour: Ref Zhur-Khimiya, No 3, 1957, 9227

Abstract: established; the best process parameters were obtained with flame temperatures of over 16000. The method developed for the evaluation of the process permits the separate evaluation of the parameters of the parallel processes of the degasing and gasification of the coal. It has been found that once the bed has been fanned with an oxygen blast, the oxygen steam ratio in the blast must not exceed 1/1. The upper and lower limits of the flow velocity of oxygen in the channels as well as the amount of oxygen per square meter of burning surface has been determined.

Card 3/3

POLAND / Chemical Technology. Chemical Products and
Their Applications. Chemical Processing of
Solid Fossil Fuels.

Abs Jour: Ref Zhur-Khimiya, 1959, No 4, 13145.

Author : Dziunikowski, Kazimierz.
Inst : Not given.

Title : Forecasts for Subterranean Gasification of Coal.

Orig Pub: Przegl. gorniczy, 1957, 13, No 9, 406-408.

Abstract: A comparison was made of methods used for subterranean gasification of coal in the PPR and in
foreign countries (USSR, England, France, USA).
Advantages are noted of the use of an oxygen blast
with water vapor, with well digging to the coal
layer. Considerations are expressed on the direction of future experiments in the PPR.

1

Card 1/1

POLAND/Chemical Technology - Processing of Solid Fossil Fuels.

H-22

Abs Jour

: Ref Zhur - Khimiya, No 24, 1958, 82963

Author

: Dziunikowski, K.

Inst Title

: The Underground Gasification of Coal in England.

Orig Pub

: Windom. gornicze, 1958, 9, No 1-2, 7-10.

Abstract

: A brief information is given as to the experiments which were conducted in England on the underground casification of cials, and the results of these experiments are cited. It is pointed out that in the course of 6 years ~ 50 experiments were conducted on two experimental plants; over 5 thousand tons of coal has been masified; the ms obtained was partially used in cas notors for the production of electrical energy. A project must be worked out to the end of the year 1958 for a scrii-industrial plant for the underground coal gasification and the application of the

cas for the supply of electro-energy.

Card 1/1

Country : Poland H-22

Category

Abs. Jour. :

40003

Author

: Dziunikowski, K.

Institut. : Not given

Title

: Underground Gasification of Coal in the USA

Orig Pub. : Wiadom Gornicze, 9, No 3, 56-59 (1958)

Abstract

: In 1948 a series of experiments was carried out in the state of Georgia on the underground gasification of a coal bed of thickness 0.9 m at a depth of 10 m; the coal (C) had an ash content of 13%, volatile substances 39%. The experiments were continued for 50 days; all in all about 400 tons of C were gasified. The mean heating value of the gas obtained was 380 kcal/m3 with air blast and 450 kcal/m3 when the blast was enriched with 34% O2. In 1949-1951 a second series of gasification experiments was undertaken using the same bed of coal (thickness 1.05-1.17 m, depth below ground 50 m). The underground generator consisted of a drift of about 470 m length

Oard: 1/2

Country : Poland

H-22

Category= :

Abs, Jour. :

47158

: Dziunikowski, K.

Ruther Institut. Title

: Underground Gasification of Coal in the Former

French Marocco.

Orig. Pub.: Wiadom. gornicze, 1958, 9, No 4, 102-104

Abstract: Description of the conditions under which were carried out in 1950-1952 and 1954-1955, at Jerada two experimental underground gasifications of anthracite, in a seam 1.0-1.2 m thick with a dip of 77°; the experiments were conducted using blowing with air. Heat value of the gas so obtained varied within the limits 400-600 kcal/nominal m3. Negative conclusions are reached concerning the economic efficience of the process carried out by the method that was used in these experiments. -- U. Andres.

Card:

DZIUNIKOWSKI, Kazimierz

Tape-rope conveyers. Wiadom gorn 10 no. 7/8:266-267 J1-Ag 159.

DZIUNIKOWSKI, K.

The source of explosive gases in coal mines while extinguishing fire with water. p. 109.

PRZEGIAD GORNICZY. Stowarzyszenie Naukowo-Techniczne Inzymierow i Technikow Gornictwa. Katowice, Poland, Vol. 15, No. 3, March 1959.

Monthly List of East European Accessions (EEAI), LC, Vol. 8, No. 9, September, 1959. Uncl.

DZIUNIKOWSKI, Kazimierz

Combating air pollution with Coalcaso solution. Wiadom gorn 12 no.1/2:26-27 Ja-F 61.

DZIUNIKOWSKI, Kazimierz

Ways of consolidating the squeeze of bottoms in gangways. Wisdom gorn 12 no.7/8:250-252 JL-Ag b61.